Message

From: Brown, Cheryl A. [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DD6F8A562924439AAF97CA98DDAF1E10-BROWN, CHERYL]
Sent: 3/14/2016 5:37:51 PM
To: Labiosa, Rochelle [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ded3654216c9461d95cd5a3ceec507ef-Labiosa, Rochelle]; Cox, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cddd6a5bb3c2477183799ef56cdb464f-Cox, Michael]; Fullagar, Jill [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ba061353c314b40a14a8be1ee382ae3-Gable, Jill]; Cope, Ben [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=497efadd936e4d378225116b8f50fd3f-Cope, Ben]; Cora, Lori [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c8850941bf1540c796559dce75c2f5ee-Cora, Lori]
Subject: RE: OA Paper. Call-n: Personal Privacy / Ex. 6 ode: Personal Privacy / Ex. 6 , Adobe Connect: https://epawebconferencing.acms.com/ Personal Privacy / Ex. 6
Attachments: Bednarsek Only Data points off of Oregon_version 2.pdf; Haigh et al 2015 Effects of OA on Temperate coastal marine ecosystems and fisheries in the NE Pacific.pdf; IEA-State-of-the-California-Current-Report-2015.pdf; ATT73885; ATT02019

Great find, Rochelle.

Attached is the revised version of the figure that shows location of Bednarsek sampling off of Oregon.
I colored the datapoints in powerpoint. If you want to tweak it I can send the power point file as well.

Also, find attached the Haigh et al (2015) paper that has a section on pteropods (see pages 15 & 16).

I've also attached another report authored by Bill Peterson in which he shows aragonite saturation at NH-5 (Newport line), estimated
Using the Juranek et al paper. See image below
Here is excerpt of text that goes with this figure.

> At sampling station NH05 off of Newport, OR, aragonite saturations <1.0 are seen throughout the upwelling season, most commonly in July and August (Fig. 3.7). Higher values are seen in winter, when the water column tends to be well mixed by winter storms (see Supplementary material). Conversely, at station NH25, aragonite saturation is always <1.0 at a depth of 150 m. It is noteworthy that water from this depth upwells onto the continental shelf in summer, thus it is the acidity of these source waters that contribute to low aragonite saturation on the continental shelf in summer. There is no clear temporal trend in aragonite saturation; however, we are already seeing

seasonal pulses of acidified water off Oregon and believe that this is of natural origin, caused by the decomposition of organic matter and CO_2 release as it sinks toward the seafloor.

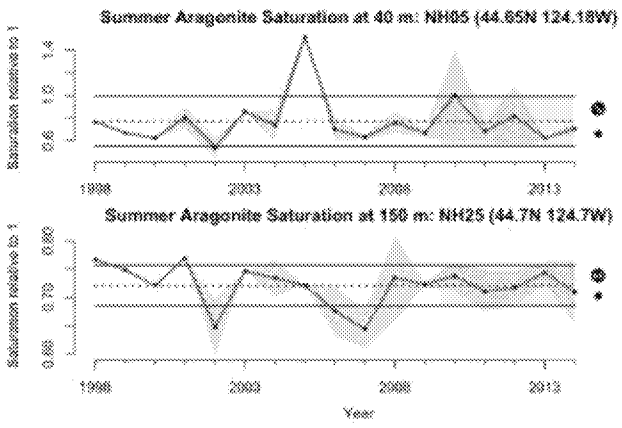

Figure 3.7. Aragonite saturation in summer months off of Newport, OR, 1998-2014. Lines, colors and symbols are as in Figure 1.1. The time series is similar to data in Figure 2.4 because aragonite saturation is calculated in part from DO data.

Cheers,
Cheryl

Bednarsek Only Data points off of...

Haigh et al 2015 Effects of OA on ...

IEA-State-of-the-...

From: Labiosa, Rochelle
Sent: Monday, March 14, 2016 10:24 AM
To: Cox, Michael <Cox.Michael@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>; Cope, Ben <Cope.Ben@epa.gov>; Cora, Lori <Cora.Lori@epa.gov>; Brown, Cheryl A. <Brown.Cheryl@epa.gov>
Subject: RE: OA Paper. Call-n: Personal Privacy / Ex. 6 ode: Personal Privacy / Ex. 6 Adobe Connect: https://epawebconferencing.acms.com/ Personal Privacy / Ex. 6

I found a great summary paper from NOAA 2011 (Bill Peterson) including cumulative upwelling index and strength compared to previous years– with other climatologies to illustrate what was driving coastal dynamics in 2011. So, Jill, no need to have Marty do the stats on the upwelling index. Evidence shows there was less upwelling than usual in 2011.
See page 27:
One can see in Figure 10 that upwelling was initiated on day 105 (15 April) in 2011. The winds were relatively weak in the beginning of the season, so significant upwelling did not start until day 155 (June 4). There was a rather abrupt end to the 'season', with an ultimate reversal to primarily downwelling on day 259 (16 September). The cessation of upwelling in mid-September resulted in one of the shortest annual upwelling periods since the 1997 El Nino. The total amount of upwelling for 2011 was 4,555 m^3/s per 100 m of coastline, which is 26% lower than the 40-year average of 6,163 m^3/s per 100 m.
Figure 10.
Cumulative upwelling index for 2011. Vertical arrows indicate the date of physical Spring transition (Day 105) and Fall transition (Day 246). 2011 had a shorter than average upwelling season and below average total upwelling.

http://www.nwfsc.noaa.gov/research/divisions/fe/estuarine/oeip/documents/peterson_etal_2011.pdf

<< File: peterson_etal_2011.pdf >>
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-----Original Appointment-----
From: Cox, Michael
Sent: Friday, March 11, 2016 9:12 AM
To: Fullagar, Jill; Cope, Ben; Cora, Lori; Labiosa, Rochelle; Brown, Cheryl A.
Subject: OA Paper. Call-n: 1-866-299-3188 ode: 206-553-1597#,, Adobe Connect: https://epawebconferencing.acms.com/r76rk1un1te/
When: Monday, March 14, 2016 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: R10Sea-Room-14Elwha/R10-Rooms-Service-Center

Thank you everyone for providing input, data, etc. Still some work to go but ran out of time today to continue.

Monday March 14th
9:00 - 10:00
Call-in: Personal Privacy / Ex. 6
Code: Personal Privacy / Ex. 6
Adobe Connect: https://epawebconferencing.acms.com/ Personal Privacy / Ex. 6

Materials (I have attached three documents for our discussion on Monday.)

1. Deliberative Process / Ex. 5 Draft paper (still needs work but I ran out of time for today).
<< File: Upwelling Data From Marty Jacobsen.xlsx >>

2. Upwelling data (thanks Rochelle and Marty)
<< File: OA Deliberative Process / Ex. 5 March 12 2016 Draft.docx >>
3. Bednarsek data points (thanks Cheryl)
<< File: Bednarsek Only Data points off of Oregon.pdf >>

Agenda

1. **Discuss paper (I would suggest going through section by section).**
   - Identify additional data needed.
   - Discuss recommendations.
2. **Discuss possible meeting with Jan Newton and Dick Feely (they talked with Brian Rappoli at some conference)**
3. **Other**